

CLAIMS

1. An alkaline protease wherein an amino acid residue at (a) position 84, (b) position 104, (c) position

256 or (d) position 369 of SEQ ID NO:1 or at a position

5 corresponding thereto has been deleted or selected from:

at position (a): an arginine residue,

at position (b): a proline residue,

at position (c): an alanine, serine, glutamine,
valine, leucine, asparagine, glutamic acid or aspartic acid
10 residue, and

at position (d): an aspartic acid residue

2. An alkaline protease having an amino acid sequence represented by SEQ ID NO:1 or having an amino acid sequence showing at least 60% homology therewith, wherein
15 an amino acid residue at (a) position 84, (b) position 104, (c) position 256 or (d) position 369 of SEQ ID NO:1 or at a position corresponding thereto has been deleted or selected from:

at position (a): an arginine residue,

20 at position (b): a proline residue,

at position (c): an alanine, serine, glutamine,
valine, leucine, asparagine, glutamic acid or aspartic acid
residue, and

at position (d): an aspartic acid residue.

3. An alkaline protease wherein an amino acid residue at (e) position 66 or 264, (f) position 57, each of 101 to 106, 136, 193 or 342, (g) position 46 or 205, (h) position 54, 119, 138, 148 or 195, (i) position 247, (j) position 124, (k) position 107 or (l) position 257 of SEQ ID NO:1, or at a position corresponding thereto has been deleted or selected from::

at position (e): a glutamine, aspartic acid, serine, glutamic acid, alanine, threonine, leucine, methionine, cysteine, valine, glycine or isoleucine residue

at position (f): a lysine, serine, glutamine, phenylalanine, valine, arginine, tyrosine, leucine, isoleucine, threonine, methionine, cysteine, tryptophan, aspartic acid, glutamic acid, histidine, proline or alanine residue,

at position (g): a tyrosine, tryptophan, alanine, asparagine, glutamic acid, threonine, valine, leucine, isoleucine, histidine, serine, lysine, glutamine, methionine or cysteine residue,

at position (h): a tryptophan, phenylalanine, alanine, asparagine, glutamic acid, threonine, valine, histidine, serine, lysine, glutamine, methionine, glycine,

at position (i): a tryptophan, phenylalanine,
alanine, asparagine, glutamic acid, threonine, valine,
leucine, isoleucine, histidine, serine, glutamine,

at position (j): an alanine or lysine residue,

at position (k): a lysine, arginine, alanine or serine residue, and

at position (1): a valine or isoleucine residue.

10 4. An alkaline protease having an amino acid
sequence represented by SEQ ID NO:1 or having an amino acid
sequence showing at least 60% homology therewith, wherein
an amino acid residue at (e) position 66 or 264, (f)
position 57, each of 101 to 106, 136, 193 or 342, (g)
15 position 46 or 205, (h) position 54, 119, 138, 148 or 195,
(i) position 247, (j) position 124, (k) position 107 or (l)
position 257 has been deleted or selected from:

at position (e): a glutamine, aspartic acid, serine, glutamic acid, alanine, threonine, leucine, methionine, cysteine, valine, glycine or isoleucine residue

at position (f): a lysine, serine, glutamine,
phenylalanine, valine, arginine, tyrosine, leucine,
isoleucine, threonine, methionine, cysteine, tryptophan,

aspartic acid, glutamic acid, histidine, proline or alanine residue,

at position (g): a tyrosine, tryptophan, alanine, asparagine, glutamic acid, threonine, valine, leucine, 5 isoleucine, histidine, serine, lysine, glutamine, methionine or cysteine residue,

at position (h): a tryptophan, phenylalanine, alanine, asparagine, glutamic acid, threonine, valine, histidine, serine, lysine, glutamine, methionine, glycine, 10 aspartic acid, proline, arginine or cysteine residue,

at position (i): a tryptophan, phenylalanine, alanine, asparagine, glutamic acid, threonine, valine, leucine, isoleucine, histidine, serine, glutamine, methionine or cysteine residue,

15 at position (j): an alanine or lysine residue,

at position (k): a lysine, arginine, alanine or serine residue, and

at position (l): a valine or isoleucine residue.

5. An alkaline protease according to claim 2 or 4, 20 wherein the amino acid sequence represented by SEQ ID NO:1 or amino acid sequence showing at least 60% homology therewith is an amino acid sequence selected from SEQ ID NOS: 2 to 7.

7. A recombinant vector comprising a gene as claimed in claim 6.

9. A transformant according to claim 8, wherein a microorganism is used as a host.

10. A detergent composition comprising an alkaline protease as claimed in any one of claims 1 to 5.

61